

## Lewis University Campus Tree Care Plan

### Purpose:

The purpose of the Lewis University Campus Tree Care Plan is to provide a standard for establishing, protecting, maintaining, and removing trees. The overall goal is to maintain a healthy and sustainable campus forest that is both accessible to the students as well as the community. The specific objectives of the plan are:

- Establish a campus forest that is aesthetically pleasing while ensuring the authenticity of trees selected and planted.
- Protect trees of significance or old age during construction periods and continue our current plan for replacing any trees that may be damaged or lost.
- Maintain a healthy tree population through pruning and pest removal.
- Identify and remove invasive species in order to encourage species diversity.
- Remove any infected or dead trees to ensure public safety and to promote overall health of the campus forest.
- Maintain an arboretum like atmosphere for educational opportunities, as within our environmental science area.
- 

### Responsible Department:

Lewis University Grounds Department, within the Facilities department, under the direction of the Superintendent of Grounds, Dwight DeVries.

### Campus Tree Advisory Committee:

Lewis University Tree Advisory Committee was founded in 2009 and is comprised of faculty, students, and community members from various organizations such as privately owned landscape companies and the Morton Arboretum. The committee meets biannually and contributes to the upkeep of the campus forest. The committee is always responsible for decisions made on further development of the campus arboretum, campus tree walk, and Burham Centennial Nature Trail and for sustainability issues.

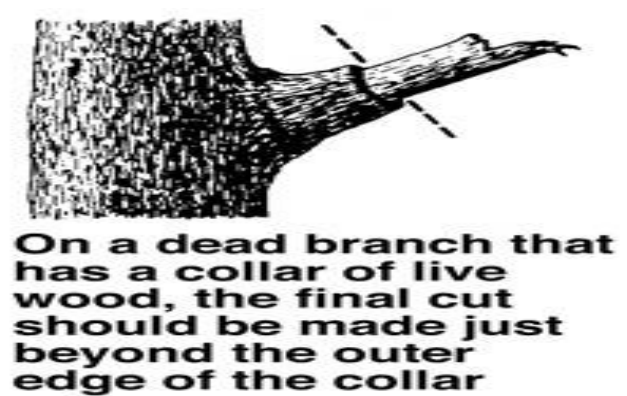
### Campus Tree Care Policies:

#### Pruning Schedule

- Pruning is done during late winter or early spring before growth begins or as weather dictates.
- Pruning is limited in the late summer because of new growth may occur and will not have sufficient tie to harden before cold weather arrives. Since summers are humid, sufficient pruning is necessary to allow sun and air in to create adequate ventilation. -
- Sometimes cuts are made as preventative medicine or to eliminate disease or rejuvenate growth.
- Plants damaged by storms or containing dead limbs are pruned as soon as possible to avoid insect issues, disease problems, and ensure safety.

## Pruning Practices

- For young trees pruning is limited to corrective pruning (i.e., pinching buds, redirecting branches)
- During the prime life of a tree corrective pruning is done for rejuvenation, production, beauty, and usefulness.
- After pruning the trees pruning paints are not used to cover the wounds.
- Pruning cuts are made just outside the branch collar. The branch collar contains trunk or parent branch tissue and should not be damaged or removed. If the trunk collar has grown out on a dead limb to be removed, make the cut just beyond the collar. Do not cut the collar.



- All campus trees are periodically checked and scheduled for pruning based on their needs. Preventative maintenance pruning is conducted on an as needed basis throughout the season.
- Most routine pruning involves cutting out of diseased, broken or dead limbs. This can be done anytime of the year with little effect on the tree. We also like to prune more in the winter months due to less outdoor activity.
- Our general guidelines for pruning are the removal of dead, damaged and diseased wood and unwanted sucker growth and also the shaping of the tree.
- Heavy pruning just after the spring growth flush should be avoided. At the time, trees have just expended a great deal of energy to product foliage and early shoot growth. Removal of a large percentage of foliage at the time can stress the tree.

(Cited from: <http://www.mortonarb.org/tree-plant-advice/article/711/pruning-trees.html> ) January, 2010

## Mulching and Irrigation

Mulch is used to help conserve moisture and keep the soil well aerated by reducing soil compaction. The mulch helps reduce water runoff and soil erosion. The mulch also prevents the soil from splashing on the foliage.

- A two to four inch layer of mulch helps control weeds and reduce the germination of weeds.
- Mulch is used as a insulating layer keeping soil warmer in cold months and cooler in the summer months.

- Mulching around trees will reduce weed wacker damage, preferably a hardwood mulch will be used annually. We will not allow volcanoing of mulch around our campus trees.
- We usually water trees every 7 to 10 days.
- Newly planted trees are watered using the “treegator bag” which is a 20 gallon drip portable irrigation bag. The bag is filled once a week for most new tree plantings. This promotes deep root growth, which can reduce the risk of transplant and drought stress.
- Lewis University has installed several rain water collection systems. This water will be used for our watering truck, which goes out daily in the watering of our plant material or we can water directly from the water collection site.

### Weed and Pest Management

For taking care of weeds, Lewis University employs spot treatment of herbicide because we just use it when necessary.

- Chemicals should be applied per the label specifications. It is always a good practice to read the label.

### Other Practices

### Planting and Tree Diversity

Now Lewis has over 100 different tree species on the campus. Lewis has updated and developed a new tree walk and map that shows the many different species.. There is also a student unity tree planting section that has a collection of Red Sunset Maple trees planted to try to diversify the tree species on campus.

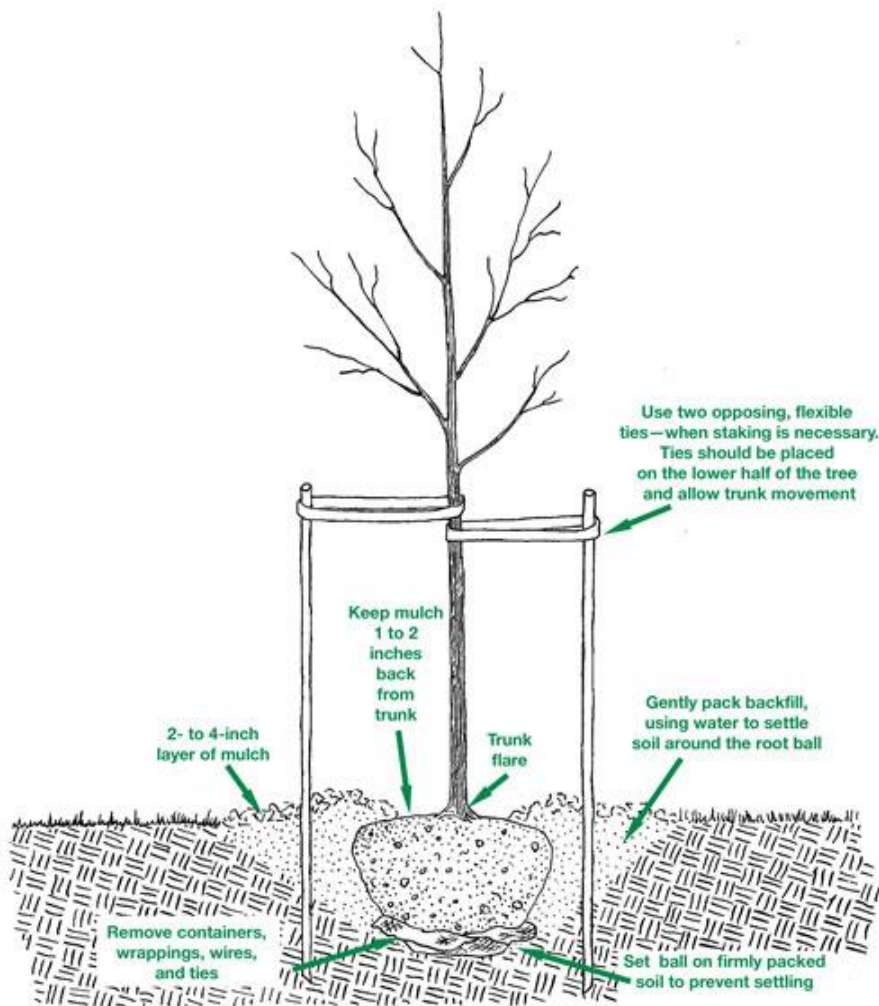
### Planting

The ideal time to plant trees and shrubs is during the dormant season or early spring before budbreak. Weather conditions are cool and allow plants to establish roots in the new location before spring rains and summer heat stimulate new top growth. However, trees properly cared for in the nursery or garden center, and given the appropriate care during transport to prevent damage, can be planted throughout the growing season. In either situation, proper handling during planting is essential to ensure a healthy future for new trees and shrubs. Before you begin planting your tree, be sure you have had all underground utilities located prior to digging.

If the tree you are planting is balled or bare root, it is important to understand that its root system has been reduced by 90 to 95 percent of its original size during transplanting. As a result of the trauma caused by the digging process, trees commonly exhibit what is known as transplant shock. Containerized trees may also experience transplant shock, particularly if they have circling roots that must be cut. Transplant shock is indicated by slow growth and reduced vigor following transplanting. Proper site preparation before and during planting coupled with good follow-up care reduces the amount of time the plant experiences transplant shock and allows the tree to quickly establish in its new location. Carefully follow nine simple steps, and you can significantly reduce the stress placed on the plant at the time of planting.

1. **Dig a shallow, broad planting hole.** Make the hole wide, as much as three times the diameter of the root ball but only as deep as the root ball. It is important to make the hole wide because the roots on the newly establishing tree must push through surrounding soil in order to establish. On most planting sites in new developments, the existing soils have been compacted and are unsuitable for healthy root growth. Breaking up the soil in a large area around the tree provides the newly emerging roots room to expand into loose soil to hasten establishment.
2. **Identify the trunk flare.** The trunk flare is where the roots spread at the base of the tree. This point should be partially visible after the tree has been planted (see diagram). If the trunk flare is not partially visible, you may have to remove some soil from the top of the root ball. Find it so you can determine how deep the hole needs to be for proper planting.
3. **Remove tree container for containerized trees.** Carefully cutting down the sides of the container may make this easier. Inspect the root ball for circling roots and cut or remove them. Expose the trunk flare, if necessary.
4. **Place the tree at the proper height.** Before placing the tree in the hole, check to see that the hole has been dug to the proper depth'—and no more. The majority of the roots on the newly planted tree will develop in the top 12 inches of soil. If the tree is planted too deeply, new roots will have difficulty developing because of a lack of oxygen. It is better to plant the tree a little high, 2 to 3 inches above the base of the trunk flare, than to plant it at or below the original growing level. This planting level will allow for some settling (see diagram). To avoid damage when setting the tree in the hole, always lift the tree by the root ball and never by the trunk.
5. **Straighten the tree in the hole.** Before you begin backfilling, have someone view the tree from several directions to confirm that the tree is straight. Once you begin backfilling, it is difficult to reposition the tree.
6. **Fill the hole gently but firmly.** Fill the hole about one-third full and gently but firmly pack the soil around the base of the root ball. Then, if the root ball is wrapped, cut and remove any fabric, plastic, string, and wire from around the trunk and root ball to facilitate growth (see diagram). Add water in the hole to remove air pockets.
7. **Stake the tree, if necessary.**

## 8. Mulch the base of the tree.



(Cited from: [http://www.treesaregood.com/treecare/tree\\_planting.aspx](http://www.treesaregood.com/treecare/tree_planting.aspx) ) January 28, 2010

When designing landscape campus improvements, these would be the preferred species. We are striving for diversification. A 10% to 15% diversification standard is the goal that we would like to achieve.

Recommended species list:

Bloodgood Japanese Maple

Red Maple Group (*Acer rubrum* spp.)

Sugar Maple Group (*Acer saccharum* spp.)

Species Sugar Maple/ *A. saccharum*

Green Mountain Sugar Maple/*A. saccharum* “Green Mountain”

Norway Maple Group (*Acer platanoides* spp.)

Emerald Lustre / *A. platanoides* “Emerald Lustre”

Emerald Queen / *A. platanoides* “Emerald Queen”  
 Millers Superform / *A. platanoides* “Superform”  
 Royal Red / *A. platanoides* “Royal Red”  
 Other Maples (*Acer* spp.)  
     Hedge Maple / *A. campestre*  
     Japanese Maple / *A. platanoides* varieties  
     Tatarian Maple / *A. tataricum*  
 Birch Group (*Betula* spp.)  
     Species River Birch / *B. nigra*  
     Heritage River Birch / *B. nigra* “Heritage”  
 Redbud Group (*Cercis* spp.)  
     Species Redbud / *C. Canadensis*  
     White Redbud / *C. Canadensis* “alba”  
 Katsura Tree (*Cercidiphyllum japonica*)  
 Hawthorne Group (*Crataegus* spp.)  
     Washington hawthorne / *C. phaenopyrum*  
     Thornless Cockspur Hawthorne / *Crataegus crusgalli inermis*  
 Turkish Filbert (*Corylus colurna*)  
 Dogwood Group (*Cornus* spp.)  
     Kousa Dogwood / *C. kousa*  
     Pagoda Dogwood / *C. alternifolia*  
     Cornus mas / Cornelian cherry  
 American Yellow – wood (*Cladrastis lutea*)  
 Witchhazel Group (*Hamamelis* spp.)  
     Common Witchhazel / *H. virginiana*  
     Vernal Witchhazel / *H. vernalis*  
 Carolina Silverbell (*Halesia Carolina*)  
 Kentucky Coffee Tree (*Gymnocladus dioica*)  
 Beech Group (*Fagus* spp.)  
     American Beech / *F. grandifolia*  
     European Beech / *F. sylvatica*  
 Ginkgo (*Ginkgo biloba* – male trees only)  
 Crabapple Group (*Malus* spp.) These are the crabapples preferred for good to excellent disease resistance or persistent fruit:  
     “Coralburst”  
     “Donald Wyman” (persistent fruit)  
     “Golden Raindrops”  
     “Harvest Gold” (persistent fruit into spring)  
     “Lousa”  
     “Cardinal”

“Prairie Fire”  
“Red Jewel” (persistent fruit)  
“Sargent”  
“Sugar Tyme” (persistent fruit)  
Tina”  
“Royalty”  
“Selkirk”  
“Spring Snow”  
“Zumi”

Magnolia Group (*Magnolia* spp.)

Magnolia / *M. stellata*

Merrill Magnolia

Dawn Redwood (*Metasequoia glyptostroboides*)

Black Gum (*Myrica sylvatica*)

Pine Group (*Pinus* spp.)

Eastern White Pine / *P. strobus*

Red Pine / *P. resinosa*

London Plane Tree (*Platanus x acerifolia* “Bloodgood”)

Sargent Cherry (*Prunus sargentii*)

Japanese Flowering Cherry (*Prunus serrulata*)

Kwanzan / *P. serrulata* “Kwanzan”

Flowering Pear (*Pyrus calleryana*)

Aristocrat / *P. calleryana* “Aristocrat”

Autumn Blaze Pear

Cleveland Select Pear

New Bradford Pear

Redspire Pear

Douglas Fir (*Pseudotsuga taxifolia*)

Oak Group (*Quercus* spp.)

Swamp White Oak / *Q. bicolor*

White Oak / *Q. macrocarpa*

Scarlet Oak / *Q. coccinea*

Chinquapin Oak / *Q. muhlenbergii*

Northern Red Oak / *Q. borealis* (*rubra*)

Red. Oak / *Q. rubra*

Shingle Oak / *Q. imbricaria*

English Oak / *Q. robur*

Bur Oak

Regal Prince Oak

Japanese Tree Lilac (*Syringa reticulata*)

Ivory Silk / *S. reticulata* “Ivory Silk”

“China Snow”

Linden Group (*Tilia* spp.)

American Linden / *Tilia Americana*

Redmond Linden / *T. Americana* “Redmond”

Littleleaf Linden / *Tilia cordata*

Gleneven Linden / *T. cordata* "Glenleven"  
 Greenspire Linden / *T. cordata* "Greenspire"  
 Hemlock (*Tsuga Canadensis*)  
 Bald Cypress (*Taxodium distichum*)  
 Lacerbark Elm (*Ulmus parvifolia*)  
 Elm/ *Ulmus* hybrids  
 Morton Glossy  
 Serviceberry Group (*Amerlanchier* spp.)  
     Serviceberry / *A. Canadensis*  
     Autum Brilliance Serviceberry/ *A. x grandiflora* "Autumn Brilliance"  
     Regent Serviceberry / *A. alnifolia*  
     Princess Diana  
 Buckeye Group (*Aesculus*)  
     Bottlebrush buckeye / *A. parviflora* (natural settings)  
 Prunus  
     Canada Red Chokcherry / *P. virginiana*  
 Hackberry / *Celtis occidentalis*  
 Tulip Tree /*Liriodendron*  
 Zelkova / *Musashino Zelkova*

### Storm Response and Recovery

After a storm, the main priority is to move all debris that can harm people on campus or to remove downed trees that have fallen on building, sidewalk, or any other areas that Lewis community members may come in contact with. Next, is to clean up any fallen trees that may be blocking roadways or entrances.

### Protection and Preservation

As per the Romeoville Village Ordinance we are required to meet these standards.

#### Section 18.034 Tree Preservation and Planting Plan

-The preliminary plat and preliminary development plan shall show the location and condition of existing trees three inches caliber or greater. Trees of species identified in the Village Tree manual as undesirable need not be shown. Trees of desirable species in good condition shall be saved whenever possible. Where several trees are growing within five feet of one another, they may be shown as a group, listing the number and average size of trees.

-Within the limits imposed by this chapter, individual houses or building shall be placed on their lots so as to maximize survival of desirable trees. Sidewalks and bicycle paths shall likewise be varied if necessary to protect adjacent trees.

-Trees to be saved shall be prominently marked, these marking to be visible at normal eye level and at the working level of equipment operators.

-Movement of construction equipment and any other vehicles on wooded site shall be restricted to clearly make routes.



-Temporary barriers shall be erected prior to construction to prevent damage to the trunk, canopy, or root zone of trees to be saved; for instance, stakes and rope, snow fences, wooden frame, cinder block, planking over roots and the like. Barriers equal in extent to the drip line of the tree may be required in case of species particularly susceptible to root zone damage.

-Use, storage, or other deposition of equipment or material shall be prohibited within the root zone of any tree to be saved; for example, paint, oil solvents, fuel, gravel, fill, concrete, sand, mortar, rubbish, and the like.

-Grading, filing, excavating, or other disturbance within the root zone of any tree to be saved shall be avoided wherever possible. Where this cannot be avoided, a tree well, terrace, retaining wall, or other protective devise shall be installed as the first step of construction. The devise shall conform to standard horticultural practices, as illustrated in Carpenter, Walker, and Lanphear, "Plants in the Landscape," or equivalent authoritative references.

-If tree roots must be cut in the course of installing streets, utility lines, foundations, or other construction activity, this cutting shall be by trenchers, backhoe equipment, or other equipment which will insure clean cuts. Where damage is inflicted, pruning or other compensatory treatment shall be done as soon as possible.

-Trees to be saved shall not be subjected to unfavorable changes in drainage, either during or after construction.

-The developer/subdivider shall transplant suitable sized trees which would otherwise be destroyed during development, to other lots, parkways, or public areas in the village.

-Subdivision developers shall plan trees along all streets within the development site where they do not presently exist. The trees shall be of two and one-half inches caliber or larger. They shall be spaced a minimum of 30 feet and a maximum of 50 feet apart. Trees shall not ordinarily be planted within 15 feet of a driveway or fire hydrant. They shall be of species on the list referred to in division (1) of recommend trees. Trees planted within a development may be of one species. Trees shall be maintained and dead trees replaced by the subdivider for a period of two years after initial planting.

-The following tree species include those varieties that are best acclimated to the Chicago climate, are hardy and disease-resistant, are limited in eight growth, have an aesthetic value in flower, fruit, bark or foliage, and are as limited in nuisance problems as possible.

Acer platanoides	Norway Maple
Acer rubrum	Red Maple
Catalpa speciosa	Catalpa
Cladrastis lutea	Yellowwood
Faxinus Americana	White Ash

Fraxinum pennsylvanica	Green Ash
Ginkgo bilobum	Ginko
Gleditsia tricanthos inumerus	Skyline Locust
Gleditsia tricanthos inumerus	Imperial Locust
Koelreutaria paniculata	Golderain
Pyrus calleryara "Bradford"	Bradford Pear
Tilia cordata	Little Leaf Linden

(( Ord. 2313-95, passed 2/1/95)

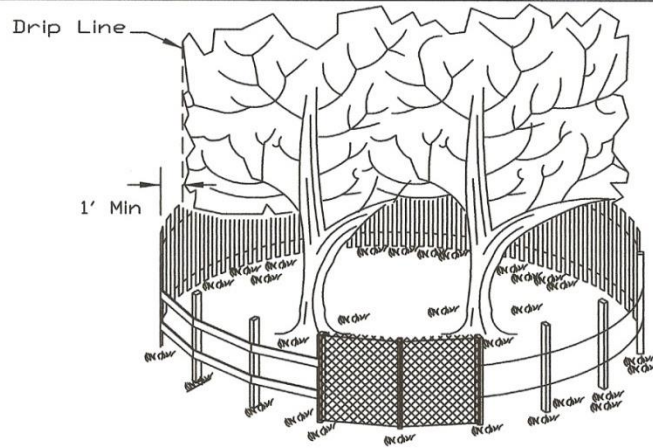
The purpose for protecting trees during construction and campus improvements

The root zone (CRZ) is one foot outside the perimeter of the leaf canopy of the tree to be protected. This area needs to be protected. Trees not necessary to be protected will be removed and eliminated.

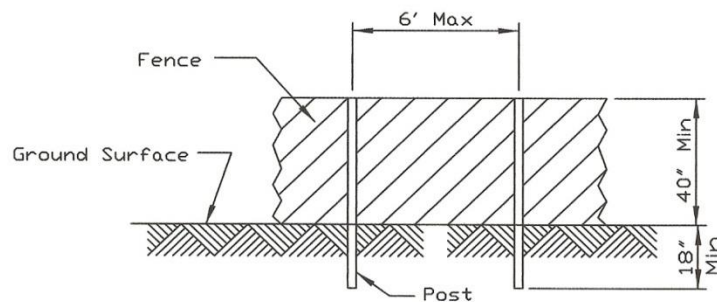
No construction activities, including the placement of topsoil, shall be permitted within the CRZ. In addition, all roadways, parking areas, and storage areas shall be located outside any CRZ. Construction fencing (florescent polyethylene laminar safety netting), wooden snow fence, or approved equivalent with a minimum height of 40 inches shall be installed around the CRZ of all trees to be protected, prior to pruning. The fencing shall be secured to ground-mounted metal or wood posts spaced a maximum of 6 feet apart and maintained to prevent clearing, grading and development activities from encroaching within the CRZ.

We will work closely with contractors to make sure they abide by the above set specifications. The grounds department will even try to work closely with the contractor to protect the trees determined for preservation during construction. Installation of protective fencing will be made before any work is started and will not be removed until the job is completed. If contractor cannot install or is not qualified to install protective measures, Lewis University grounds department will do so.

## TREE PROTECTION - FENCING



SIDE VIEW



POST AND FENCE DETAIL

**NOTES:**

1. The fence shall be located a minimum of 1 foot outside the drip line of the tree to be saved and in no case closer than 5 feet to the trunk of any tree.
2. Fence posts shall be either standard steel posts or wood posts with a minimum cross sectional area of 3.0 sq. in.
3. The fence may be either 40" high snow fence, 40" plastic web fencing or any other material as approved by the engineer/inspector.

**REFERENCE**

Project	_____	Date	_____
Designed	_____	Date	_____
Checked	_____	Date	_____
Approved	_____	Date	_____



NRCS

Natural Resources Conservation Service

**STANDARD DWG. NO.**

**IL-690**

**SHEET 1 OF 1**

**DATE 4-7-94**

### Goals and Targets

- Establishment of an arboretum for community and educational opportunities. This will encompass the tree walk previously established on campus.
- Measurement of target goal will be through tree walk brochures, the number of groups that come on campus, plus academic entities, which would include, Lewis students, local grad school and high school students.
- Campus Tree Inventory
- This is being done by grid by grid on a systematic CAD software program over the next five years.

### Diversification of Tree and Shrub Inventory

- Over the next five years we will be adding and documenting new tree and shrub species that will reflect the more naturalistic landscape for this region.
- We have been CPG tree locations to create a tree app program.

### Tree Damage Assessment, Enforcement, and Penalties

- When damage to trees, shrubs, and turf areas is reported an incident report is written and a call is made to the Grounds Superintendent to assess the damages. Once the incident has been documented, corrective action is taken along with a detailed cost estimate of the damages. If the person or persons responsible are identified there are formal processes in place for recover of costs associated with the damages.
- Dependent on the severity of the damage the affected plants will be treated to promote healing of the wounds. Replacement will take place if plant is no longer viable.
- If damage is caused by a contractor during construction activities the contractor is responsible for all damages.

### Prohibited Practices

- One prohibited practice is to nail, bolt, or use trees as an anchor for other cables to hang banners, flags, etc.
- Another prohibited practice is destruction of any part of the roots, branches, and bark on the trees or shrubs.
- Prior to construction on campus, the contractor must speak with the Superintendent of Grounds to avoid as much damage to trees as possible. If the tree is small enough to be moved, it must be transplanted to another location. If the tree is too large it must be sawed down and another tree must be planted as a replacement
  - Damage to campus trees will include any of the prohibited practices listed above and will be determined by the University's Dean and proper punishment will be decided at that time.

### Community Strategy

The Campus Tree Advisory Committee will look for opportunities for the surrounding towns or schools to visit our campus and view our tree collection for their enjoyment and as a learning experience to share with the community as a whole.

## Works Cited

"ALP" *American Legal Publishing Corporation: Home*. Web. 28 Jan. 2010

[http://www.amlegal.com/nxt/gateway.dll/Illinois/romeoville\\_il/villageoffromeovilleillinoiscodeofordinan?fn=altmain-nf.htm\\$f=templates\\$3.0&vid=amlegal:Romeoville\\_il](http://www.amlegal.com/nxt/gateway.dll/Illinois/romeoville_il/villageoffromeovilleillinoiscodeofordinan?fn=altmain-nf.htm$f=templates$3.0&vid=amlegal:Romeoville_il).

"Pruning Trees." *Morton Arboretum*. Web. 28 Jan 2010.

<http://www.mortonarb.org/tree/plant/advice/article/711/pruning-trees.html>.

"Trees Are Good – Tree Care Information" *Trees Are Good* Web. 28 Jan 2010

[http://www.tresaregood.com/treecare/tree\\_planting.aspx](http://www.tresaregood.com/treecare/tree_planting.aspx)